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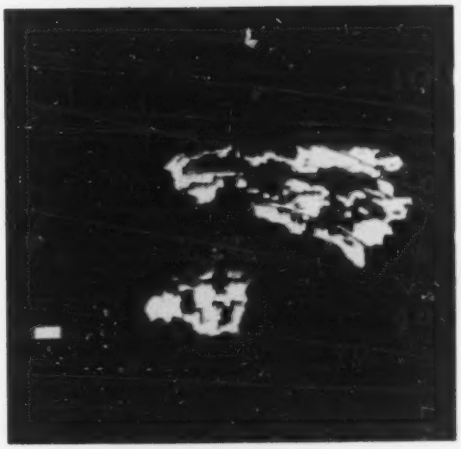
Business and commercial Aviation

Inflight Report: Bonanza A36



Merging Stormscope With Radar

Salary and Budgeting Report

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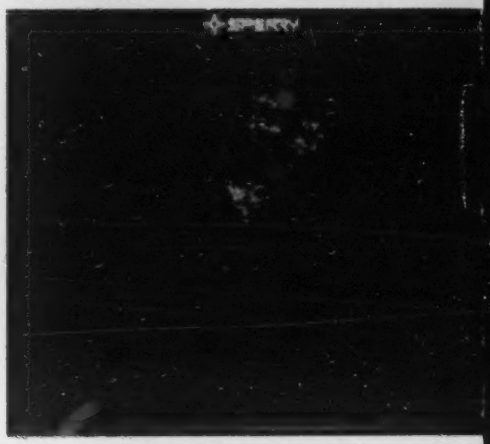

Sperry and 3M's Stormscope-radar combination is a natural since two weather-detection systems are better than one.

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Not only is pilot pay up for a second straight year, but more importantly, several significant trends in personnel management are emerging.

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With a little help from the manufacturers, flight departments can vanquish the budgeting behemoth of variable costs.

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Changing fortunes can make long-range planning difficult, but many flight department managers feel that it is a necessary exercise.

CLEARANCE DELIVERY

People who have been reading B/CA for the past several years have probably noticed that the magazine has grown, not just in size but in editorial breadth as well. *B/CA Commuter,* a special section for commercial operator management, was launched in 1980, and less than two years later a demographic for rotorcraft operators, *B/CA Helicopter,* was introduced.

B/CA readers may also have noticed that the magazine has taken on a new, more modern look over the past several months, a change that is largely the work of Mildred Stone, B/CA's new art director. But as much as each staff member likes to take credit for the editorial excellence of a publication, the truth is that it's a team effort.

The latest member of B/CA's team is Assistant Art Director Rose Lynn Laraja, who is helping Art Director Mildred Stone "modernize" B/CA. After obtaining a degree in advertising design from Syracuse University, Rose Lynn immediately tested her creative skills by entering New York City's fast-paced world of fashion advertising. Now, four years later, she is making the transition from advertising to publishing.

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"I'm excited about learning the publishing world from a pro like Mildred," said Rose Lynn modestly. Judging from the look of B/CA's recent issues, the lessons are coming along quite well.

THE COVER
Staff Editor Alan Staats photographed the Beech Bonanza A36, and 3M provided the pictures of the Stormscope-radar installation. Freelancer Phyllis Tarlow was responsible for the art depicting B/CA's salary and budgeting report.

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1985 B/CA Salary Survey

Pay for flight department employes is up for the second year, adding substance to the perception that the economic recovery is making itself felt within business aviation operations.

by Richard N. Aarons

As you might have guessed, there were few great salary leaps for pilotkind in the last 12 months, but the year did see the emergence of several new remuneration schemes designed to match the compensation of flight department employes to their company's financial results.

On the more mundane side, those companies using traditional wage-adjustment programs kept raises to three to eight percent, with the majority coming in at an average of 5.2 percent. The only significant deviations from these figures were the few companies that were attempting to bring the salaries of their flight crews up to the medians in the B/CA and NBAA salary surveys.

Underlying this attempt to increase pilot salaries in the cases where they have been out of line with industry norms is the fact that the industry is starting to feel the effects of airlines drawing pilots away from business aviation.

Surveying the Surveys

Presently, there are at least three formal corporate-pilot salary surveys and dozens of informal surveys. Obviously, each surveyor takes a different approach in selecting the companies to be surveyed, the questions to be asked and the way in which those questions are asked. As a result, the industry ends up with at least three sets of data.

Several compensation managers have asked us how B/CA conducts its survey, so we'll share that information with everybody again this year. In doing so, we hope that it will help you better understand the value of the numbers found on these pages.

The B/CA survey first appeared 12 years ago, but was brought to its present form five years ago with the help of the statistics wizards in our parent company's marketing group. The idea was to identify a sample group that was representative of the operator mix as a whole. Essentially, that was a three-step process:

(1) We needed a range of operations, from *Fortune* 500 companies with sizable staffs to single-pilot operations in which the pilot was department manager, pilot, dispatcher and mechanic all in one.

(2) We also needed an industry mix within operational groups to prevent a sudden slump in one industry (smokestack, for example) from tipping the scales too severely.

(3) Finally, we needed to find companies whose flight departments and personnel departments were willing to *talk* with us, because we believe that *conversation* is the key to getting good results.

Actually, the belief that "talk is best" came from the aforementioned survey wizards. People are more likely to tell you precisely what is going on when there is personal contact, we were told. The wizards showed us tests where groups were asked questions about their own income on mail-in forms and in telephone surveys. The results indicated that folks overestimated their income by about 15 percent when filling out forms, but "told it the way it really was" when a real human talked to them on the phone. (When a computer attempted to talk to them, they simply hung up.)

Armed with this advice, we began our restructured surveys. The first year out of the box was a bit uncomfortable because our survey was showing aviation salaries somewhat lower than those shown in the other surveys.

"Not to worry," said the wizards, "you're seeing the 'phone effect' in action." We weren't worried about our numbers—they were correct. But being human, we were a bit worried that we'd lose some friends. After all, most pilots believe bigger is better when it comes to salary survey results.

Obviously, we published the results and lived with them (and got a few nasty notes from our friends). But the truly valuable thing that came out of all of this was a five-year record on each company in our sample group. You see, each year we went back to the same companies and thus developed company histories, and better, a good rapport with the department managers and compensation managers involved. By the time the third year rolled around, we could plot the salary levels reported by each company for each mechanic and pilot and tell if we were getting inflated numbers. We weren't. At the same time, managers began to share unrequested information with us—data that could never have been collected on a form but could be used to round out the salary picture in our surveys.

Over the five years, we have lost some companies, of course, through mergers or flight department shutdowns. But as one company goes, a similar operator is added to the B/CA list.

The biggest problem with our technique is finding aviation department managers and chief pilots. These men and women spend much of their time on the road (in the air, actually), so the survey itself usually takes a total of about two months to complete.

In any event, this year's numbers are here, and just as important, this year's observations about the state of compensation in our industry are here too.

Reaching the Promised Land

In the two years previous to the 1984 survey, the aggregate salary increase for aviation personnel totaled less than 0.8 percent. That compared negatively with a steady 10-plus-percent annual increase in the middle and late 1970s.

In 1984 we saw the beginnings of a salary recovery, however, with increases of 6.9 percent nationwide in the face of a 4.2-percent inflation rate.

This year's 5.2-percent salary increase (with an anticipated 4.5 percent inflation rate) is actually better than last year's results because the pocketbook effects of 1984 had to cover the two previous "dead" years.

In the 1982-1984 period, flight department salaries were depressed. But, then their parent industries were depressed, and the concern was more about flight department survival than it was about salaries. However, corporate profits *had* been improving as 1984's survey was being completed, and there was optimism for the near term.

The 1985 salary survey is a check on that optimism and, happily, the optimism seems warranted.

As companies take tentative steps away from their individual depressions, some are looking at nontraditional ways to adjust salaries. Several have actually reduced pilot base pay to relatively low levels but have improved their profit-sharing programs to compensate with significant bonuses—in the range of $10,000 to $20,000, depending on the company's financial results.

All the aviation department managers we talked with seemed to like these results-dependent schemes. "After all," explained one Midwestern flight department manager, "if the company doesn't make it, we're all out of work. This plan has improved the productivity and enthusiasm of everybody in the department. In a way, they see themselves as company owners, and that attitude is reflected in everybody's work, from the airplane cleaners to mine."

The Manager

As you've read in B/CA before, the job of flight department manager is becoming so complex that many managers find that they cannot fly the line other than to stay current in one aircraft for personal satisfaction. The 1985 survey indicates that this trend is continuing. The "new design" flight department typically comprises a department manager responsible for all department activities, with a chief pilot and chief of maintenance reporting to him (no hers yet).

In larger departments with several types of airplanes, it is not unusual to have a chief pilot and a chief mechanic for each aircraft type. In such cases, the chiefs report to flight operations managers and maintenance operation managers, who in turn report to the aviation department manager.

Although we traditionally include these "department manager" salaries with salaries reported for chief pilots and chiefs of maintenance, we will stop that practice in our next survey. Some "department manager salaries" are pushing $100,000 with large bonuses, and those types of salaries tend to distort our overall results.

There's another phenomenon that's growing so fast that we may have to make another change to our survey format next year: Many flight departments are cross-qualifying their crews and designating all crewmembers as "co-captains"; in fact, many large flight departments we surveyed have no "copilots" at all. Every pilot is a fully rated captain in at least one aircraft and also flies as first officer in another. Even smaller departments with a single airplane and two or three pilots are going the co-captain route. One company with three small jets has three salaried captains who always fly as captains. First officers are hired on a per diem basis.

Another trend that we noticed while conducting the 1985 B/CA Salary Survey was that there seems to be fewer operators this year with copilot/mechanics on

Figure 1 **Comparative Salaries 1984/1985**

	1984	1985	% Annual Increase
Heavy Jet (over 35,000 lb)			
Chief Pilot	$59,780	$63,067	5.50
Captain	47,449	49,943	5.26
Copilot	32,918	34,543	4.94
Maintenance Chief	41,253	43,536	5.54
Mechanic	29,258	30,847	5.43
Medium Jet (13,501 to 35,000 lb)			
Chief Pilot	$49,811	$53,289	6.98
Captain	39,135	41,330	5.61
Copilot	29,402	32,538	10.67
Maintenance Chief	34,033	35,955	5.65
Mechanic	27,322	28,821	5.49
Light Jet (up to 13,500 lb)			
Chief Pilot	$39,000	$41,256	5.79
Captain	34,996	36,786	5.12
Copilot	28,000	29,590	5.68
Maintenance Chief	32,000	33,543	4.82
Mechanic	26,000	27,374	5.28
Turboprops (all)*			
Chief Pilot	NA	$43,369	NA
Captain	NA	34,773	NA
Copilot	NA	27,395	NA
Mechanic	NA	25,844	NA
Piston Twin			
Pilot	$27,000	$28,415	5.24
Turbine Helicopters			
Pilot	$36,663	$39,104	6.66
Mechanic	NA	34,165	NA

*Indicates new category this year.
NA—Not Available

board—or at least these dual-qualified young people seem to be working in one field or the other. It could be that the industry has wisely decided that piloting and fixing flying machines are two very different and complex professions. To stay current in either one (when highly sophisticated aircraft are involved) is a full-time job. Typically, the dual-qualified pilot may be required to change the oil or make a minor inspection, but more complex work is contracted out or left to full-time, in-house mechanics.

Speaking of mechanics, it's interesting to note that mechanics' wages are increasing at the same rates as those of pilots. In flight departments with an aviation manager supported by a chief pilot and chief of maintenance, the latter two seem to be approaching salary parity.

Another part of the changing personnel picture within flight departments these days is a new appreciation of the job once called "flight department secretary." In many cases, this position has been renamed "operations coordinator" or "dispatcher" or "operations director." Although we did not collect enough data on this job title to publish statistically significant figures, it is clear that salaries for these jobs are increasing as companies realize the importance of this catch-all position. Salaries of between $30,000 and $40,000 are not uncommon for this position, despite the fact that such pay for flight department secretaries was unheard of five years ago. B/CA will attempt to include this position in our future salary surveys.

A Look at the Fringes

Except for those companies that have based pilot compensation on company results, our sample group has seen few changes in benefits. Basically, just about everybody gets life insurance and major medical. About 60 percent now have dental plans. Interestingly enough, very few companies provide "loss of license" insurance, opting instead for a comprehensive long-term disability policy and internal retraining programs. Department managers and pilots alike seem to like this approach better than loss-of-license plans.

In addition to changing job descriptions and the advent of new methods of compensation within the flight department, it seems that the quest for new business on the upside of the recovery is changing corporate travel patterns significantly. Figure 2 ("Aircraft Utilization") is a *comparative* chart this year. You'll notice that there are significant changes, both up and down, yet there isn't much of a pattern in terms of stage lengths and hours flown. This indicates that travel requirements are changing as the company readjusts to changing markets.

Not only is utilization shifting, but a number of flight departments have acquired used piston twins for utility work within 100 miles of their home bases. These airplanes are being used primarily for moving parts and "running errands," and they seem to be particularly active in the Midwest, when the main aircraft operation is within 100 miles of a major hub. Before acquiring these piston twins, some operators used to roll out the company jets to run the same errands, so maybe increasing use of piston twins reflects efforts to minimize costs.

As always, the B/CA Salary Survey is meant to be a management aid. When budgeting flight department salaries, keep in mind that the figures reported in our charts are just that—reported. B/CA's accuracy is considered to be +/-5 percent of the median salaries listed. □

(charts continue through page 55)

Figure 2

Aircraft Utilization

Aircraft Type	Average Load Factor (1984)	Average Load Factor (1985)	% Change	Average Stage Length (1984)	Average Stage Length (1985)	% Change	Hours Flown Per Year (1984)	Hours Flown Per Year (1985)	% Change
Gulfstream G-II/III	5.3	6.33	19.4	1,008	1,118	10.9	650	657	1.0
Challenger 600/601	4.1	3.50	-14.6	580	478	-17.6	450	450	0.0
JetStar	3.6	3.25	-9.7	450	384	-14.7	375	330	-12.0
Falcon 50	4.3	3.00	-30.2	1,000	1,000	0.0	385	300	-22.1
Sabreliner	3.4	3.06	-10.0	578	496	-14.2	558	424	-24.0
Falcon 20/200	5.5	3.75	-31.8	436	607	39.2	499	550	10.2
HS 125	3.0	3.19	6.3	452	550	21.7	521	529	1.6
Citation III	3.9	NA	NA	592	NA	NA	642	NA	NA
Learjet 50 Series	3.2	3.00	-6.3	350	500	42.9	700	300	-57.1
Westwind 1/2	3.2	4.25	32.8	383	426	11.1	450	388	-13.8
Learjet 35	3.4	3.17	-6.8	591	609	3.0	447	425	-4.9
Falcon 10/100	3.2	3.63	13.4	346	550	59.0	503	473	-6.0
Learjet 20 Series	2.6	3.34	28.5	586	430	-26.6	345	465	34.8
Citation I/II	3.5	2.73	-22.0	325	366	12.6	574	573	-0.1
Heavy Turboprops (all)	6.8	8.33	22.5	293	335	14.2	550	291	-47.2
King Air 200/300	3.8	3.35	-11.8	264	219	-17.2	576	414	-28.2
King Air 90/100	3.5	3.50	0.0	291	310	6.4	498	548	10.0
MU-2	3.0	2.00	-33.3	251	270	7.6	401	375	-6.5
Cheyennes (all)	2.8	3.00	7.1	280	138	-50.7	275	400	45.5
Turbine Helicopters	3.5	3.57	2.0	43	104	142.2	590	443	-24.9
Piston Twins	3.0	1.96	-34.7	283	139	-51.0	474	297	-37.3

Note: These figures actually represent previous year results. Therefore, the results reported in 1985 represent 1984 activity. And, of course, the results reported for 1984 represent 1983 activity. Aviation department managers report improvements in load factors and flying in 1985, which will be reflected in next year's survey.

Gulfstream G-II/III		1984 Reported Salary	1985 Reported Salary	% Change
Chief Pilot	High	$80,160	$84,797	5.79
	Median	68,840	72,663	5.55
	Low	50,160	52,757	5.18
Captain	High	$69,540	$73,577	5.81
	Median	54,480	56,971	4.57
	Low	41,100	43,469	5.76
Copilot	High	$45,550	$47,785	4.91
	Median	39,080	41,087	5.14
	Low	27,170	28,520	4.97
Maintenance Chief	High	$54,600	$57,108	4.59
	Median	46,000	48,632	5.72
	Low	33,540	35,550	5.99
Mechanic	High	$41,508	$44,004	6.01
	Median	31,420	33,080	5.28
	Low	21,000	22,136	5.41

Challenger CL-600/601		1984 Reported Salary	1985 Reported Salary	% Change
Chief Pilot	High	$68,000	$71,862	5.68
	Median	59,000	62,437	5.83
	Low	46,000	48,276	4.95
Captain	High	$55,000	$57,825	5.14
	Median	44,000	46,637	5.99
	Low	34,000	35,882	5.53
Copilot	High	$34,000	$35,960	5.76
	Median	31,450	32,868	4.51
	Low	27,000	28,325	4.91
Maintenance Chief	High	$59,000	$62,154	5.35
	Median	39,000	41,313	5.93
	Low	34,000	35,903	5.60
Mechanic	High	$34,000	$35,803	5.30
	Median	27,000	28,500	5.55
	Low	22,800	24,138	5.87

Lockheed JetStar		1984 Reported Salary	1985 Reported Salary	% Change
Chief Pilot	High	$68,000	$71,223	4.74
	Median	54,480	57,153	4.91
	Low	46,000	48,257	4.91
Captain	High	$59,000	$61,907	4.93
	Median	43,136	45,731	6.02
	Low	39,000	40,815	4.66
Copilot	High	$34,000	$35,853	5.45
	Median	29,040	30,440	4.82
	Low	28,000	29,450	5.18
Maintenance Chief	High	$59,000	$61,697	4.57
	Median	39,000	41,289	5.87
	Low	35,640	37,508	5.24
Mechanic	High	$34,000	$35,988	5.85
	Median	26,862	28,450	5.91
	Low	21,000	22,171	5.58

Falcon 50		1984 Reported Salary	1985 Reported Salary	% Change
Chief Pilot	High	$68,840	$72,361	5.12
	Median	56,800	60,014	5.66
	Low	47,510	50,288	5.85
Captain	High	$59,461	$62,453	5.03
	Median	48,180	50,433	4.68
	Low	36,000	38,060	5.72
Copilot	High	$42,194	$44,599	5.70
	Median	32,100	33,776	5.22
	Low	26,800	28,233	5.35
Maintenance Chief	High	$42,410	$44,712	5.43
	Median	41,011	42,911	4.63
	Low	31,000	32,502	4.84
Mechanic	High	$37,013	$39,123	5.70
	Median	31,750	33,361	5.07
	Low	19,000	19,932	4.91

Rockwell Sabreliner		1984 Reported Salary	1985 Reported Salary	% Change
Chief Pilot	High	$74,300	$77,883	4.82
	Median	61,250	64,972	6.08
	Low	55,800	59,087	5.89
Captain	High	$55,600	$58,409	5.05
	Median	42,088	44,628	6.04
	Low	32,903	34,559	5.03
Copilot	High	$37,752	$39,581	4.84
	Median	34,275	36,286	5.87
	Low	24,000	25,122	4.68
Maintenance Chief	High	$45,240	$47,299	4.55
	Median	40,150	42,347	5.47
	Low	36,400	38,376	5.43
Mechanic	High	$40,380	$42,842	6.10
	Median	29,580	31,242	5.62
	Low	17,368	18,187	4.72

Falcon 20/200		1984 Reported Salary	1985 Reported Salary	% Change
Chief Pilot	High	$66,200	$70,126	5.93
	Median	54,500	57,516	5.53
	Low	50,000	52,568	5.14
Captain	High	$58,508	$61,501	5.12
	Median	44,600	47,320	6.10
	Low	36,556	38,243	4.61
Copilot	High	$44,100	$46,411	5.24
	Median	31,700	33,421	5.43
	Low	27,000	28,359	5.03
Maintenance Chief	High	$47,500	$49,970	5.20
	Median	37,960	40,037	5.47
	Low	33,250	34,763	4.55
Mechanic	High	$42,000	$44,368	5.64
	Median	33,250	35,076	5.49
	Low	20,000	21,207	6.04

BAe HS 125		1984 Reported Salary	1985 Reported Salary	% Change
Chief Pilot	High	$74,000	$77,647	4.93
	Median	56,000	58,677	4.78
	Low	32,400	34,207	5.58
Captain	High	$49,250	$51,955	5.49
	Median	42,900	44,915	4.70
	Low	28,680	30,417	6.06
Copilot	High	$37,000	$38,931	5.22
	Median	27,600	29,133	5.55
	Low	19,440	20,613	6.04
Maintenance Chief	High	$47,200	$49,437	4.74
	Median	38,400	40,204	4.70
	Low	30,000	31,359	4.53
Mechanic	High	$34,500	$36,424	5.58
	Median	26,175	27,432	4.80
	Low	18,090	18,959	4.80

Citation III		1984 Reported Salary	1985 Reported Salary	% Change
Chief Pilot	High	$55,083	$58,258	5.76
	Median	51,000	53,961	5.81
	Low	40,600	42,498	4.68
Captain	High	$48,120	$51,014	6.02
	Median	41,584	43,842	5.43
	Low	38,120	40,174	5.39
Copilot	High	$35,100	$36,778	4.78
	Median	33,930	35,637	5.03
	Low	29,160	30,560	4.80
Maintenance Chief	High	$43,125	$45,394	5.26
	Median	35,100	36,932	5.22
	Low	30,300	31,692	4.59
Mechanic	High	$31,500	$33,052	4.93
	Median	25,810	27,157	5.22
	Low	20,000	21,011	5.05

Learjet 50 Series		1984 Reported Salary	1985 Reported Salary	% Change
Chief Pilot	High	$53,250	$56,107	5.37
	Median	49,350	52,174	5.72
	Low	38,850	41,146	5.91
Captain	High	$52,812	$55,215	4.55
	Median	38,000	39,872	4.93
	Low	28,000	29,303	4.66
Copilot	High	$42,000	$44,473	5.89
	Median	31,840	33,735	5.95
	Low	22,150	23,251	4.97
Maintenance Chief	High	$42,300	$44,473	5.14
	Median	29,500	31,089	5.39
	Low	26,000	27,248	4.80
Mechanic	High	$34,100	$36,158	6.04
	Median	24,112	25,270	4.80
	Low	23,000	24,244	5.41

IAI Westwind 1/2		1984 Reported Salary	1985 Reported Salary	% Change
Chief Pilot	High	$52,000	$55,062	5.89
	Median	45,000	47,151	4.78
	Low	32,000	33,617	5.05
Captain	High	$43,890	$46,025	4.86
	Median	37,000	38,839	4.97
	Low	31,303	32,806	4.80
Copilot	High	$34,105	$35,700	4.68
	Median	28,215	29,694	5.24
	Low	26,500	28,077	5.95
Maintenance Chief	High	$42,700	$44,715	4.72
	Median	33,005	34,783	5.39
	Low	24,500	25,846	5.49
Mechanic	High	$30,000	$31,503	5.01
	Median	25,000	26,446	5.78
	Low	21,000	21,947	4.51

Falcon 10/100		1984 Reported Salary	1985 Reported Salary	% Change
Chief Pilot	High	$64,500	$68,393	6.04
	Median	49,200	52,077	5.85
	Low	47,000	49,768	5.89
Captain	High	$47,000	$49,718	5.78
	Median	38,900	40,996	5.39
	Low	33,000	34,653	5.01
Copilot	High	$41,000	$43,140	5.22
	Median	31,810	33,324	4.76
	Low	27,000	28,449	5.37
Maintenance Chief	High	$41,000	$43,371	5.78
	Median	32,000	33,717	5.37
	Low	31,006	32,469	4.72
Mechanic	High	$38,100	$40,288	5.74
	Median	31,000	32,748	5.64
	Low	26,460	27,880	5.37

Learjet 20 Series		1984 Reported Salary	1985 Reported Salary	% Change
Chief Pilot	High	$49,100	$51,745	5.39
	Median	37,500	39,787	6.10
	Low	34,500	36,279	5.16
Captain	High	$44,600	$47,236	5.91
	Median	28,704	30,232	5.32
	Low	25,000	26,143	4.57
Copilot	High	$45,600	$48,152	5.60
	Median	27,500	29,074	5.72
	Low	25,000	26,211	4.84
Maintenance Chief	High	$36,100	$38,143	5.66
	Median	27,000	28,528	5.66
	Low	26,511	27,978	5.53
Mechanic	High	$35,000	$36,922	5.49
	Median	23,950	25,200	5.22
	Low	20,800	21,816	4.89

Citation I/II		1984 Reported Salary	1985 Reported Salary	% Change
Chief Pilot	High	$49,663	$52,380	5.47
	Median	39,000	41,256	5.79
	Low	35,000	37,105	6.02
Captain	High	$42,612	$45,104	5.85
	Median	34,996	36,786	5.12
	Low	27,500	29,068	5.70
Copilot	High	$32,376	$34,032	5.12
	Median	28,000	29,590	5.68
	Low	21,000	22,241	5.91
Maintenance Chief	High	$35,100	$37,101	5.70
	Median	32,000	33,543	4.82
	Low	21,000	22,162	5.53
Mechanic	High	$28,000	$29,491	5.33
	Median	26,000	27,374	5.28
	Low	20,000	21,174	5.87

Heavy Turboprop		1984 Reported Salary	1985 Reported Salary	% Change
Chief Pilot	High	$54,500	$57,732	5.93
	Median	49,000	51,414	4.93
	Low	43,780	46,175	5.47
Captain	High	$48,070	$50,318	4.68
	Median	38,000	39,920	5.05
	Low	27,170	28,702	5.64
Copilot	High	$33,000	$34,654	5.01
	Median	31,600	33,362	5.58
	Low	25,700	26,880	4.59
Mechanic	High	$33,000	$34,688	5.12
	Median	26,600	28,000	5.26
	Low	22,000	23,075	4.89

King Air 200		1984 Reported Salary	1985 Reported Salary	% Change
Chief Pilot	High	$52,000	$54,356	4.53
	Median	45,500	48,132	5.79
	Low	31,800	33,274	4.63
Captain	High	$41,000	$43,149	5.24
	Median	34,000	35,654	4.87
	Low	28,500	29,970	5.16
Copilot	High	$33,000	$34,881	5.70
	Median	26,000	27,575	6.06
	Low	24,035	25,209	4.89
Mechanic	High	$37,000	$38,738	4.70
	Median	24,270	25,740	6.06
	Low	21,840	23,058	5.58

King Air 90/100		1984 Reported Salary	1985 Reported Salary	% Change
Chief Pilot	High	$47,250	$50,033	5.89
	Median	41,000	43,166	5.28
	Low	35,000	36,754	5.01
Captain	High	$34,000	$35,768	5.20
	Median	31,500	33,019	4.82
	Low	27,000	28,618	5.99
Copilot	High	$30,000	$31,497	4.99
	Median	24,150	25,527	5.70
	Low	22,000	23,043	4.74
Mechanic	High	$33,000	$34,792	5.43
	Median	22,580	23,792	5.37
	Low	21,000	22,035	4.93

Mitsubishi MU-2		1984 Reported Salary	1985 Reported Salary	% Change
Chief Pilot	High	$49,600	$52,147	5.14
	Median	34,620	36,529	5.51
	Low	28,000	29,696	6.06
Captain	High	$36,060	$38,033	5.47
	Median	30,000	31,622	5.41
	Low	22,000	23,116	5.07
Copilot	High	$34,000	$35,568	4.61
	Median	24,000	25,388	5.79
	Low	19,000	20,123	5.91
Mechanic	High	NA	NA	NA
	Median	NA	NA	NA
	Low	NA	NA	NA

NA—Not available

Cheyenne II/III/IV		1984 Reported Salary	1985 Reported Salary	% Change
Chief Pilot	High	$45,120	$47,749	5.83
	Median	35,500	37,606	5.93
	Low	26,580	28,106	5.74
Captain	High	$37,000	$38,877	5.07
	Median	32,000	33,650	5.16
	Low	29,500	30,843	4.55
Copilot	High	$33,900	$35,783	5.56
	Median	24,000	25,122	4.68
	Low	21,600	22,773	5.43
Mechanic	High	NA	NA	NA
	Median	NA	NA	NA
	Low	NA	NA	NA

NA—Not available

Cabin Class Piston Twin		1984 Reported Salary	1985 Reported Salary	% Change
Pilot	High	$35,000	$36,973	5.64
	Median	27,000	28,415	5.24
	Low	19,440	20,381	4.84

Sikorsky S-76		1984 Reported Salary	1985 Reported Salary	% Change
Pilot	High	$48,500	$50,798	4.74
	Median	40,510	42,497	4.91
	Low	26,125	27,478	5.18
Mechanic	High	$39,600	$41,452	4.68
	Median	31,180	32,801	5.20
	Low	25,200	26,352	4.57

Bell 222		1984 Reported Salary	1985 Reported Salary	% Change
Pilot	High	$42,024	$44,437	5.74
	Median	39,738	41,621	4.74
	Low	35,000	36,615	4.61
Mechanic	High	NA	NA	NA
	Median	NA	NA	NA
	Low	NA	NA	NA

NA—Not available

Agusta 109A		1984 Reported Salary	1985 Reported Salary	% Change
Pilot	High	$37,800	$40,105	6.10
	Median	33,600	35,530	5.74
	Low	31,105	32,839	5.58
Mechanic	High	NA	NA	NA
	Median	NA	NA	NA
	Low	NA	NA	NA

NA—Not available

MBB 80-105		1984 Reported Salary	1985 Reported Salary	% Change
Pilot	High	$50,000	$52,767	5.53
	Median	39,000	41,134	5.47
	Low	29,800	31,443	5.51
Mechanic	High	NA	NA	NA
	Median	NA	NA	NA
	Low	NA	NA	NA

NA—Not available

Bell 206		1984 Reported Salary	1985 Reported Salary	% Change
Pilot	High	$64,000	$66,886	4.51
	Median	38,000	39,952	5.14
	Low	30,160	31,646	4.93
Mechanic	High	NA	NA	NA
	Median	NA	NA	NA
	Low	NA	NA	NA

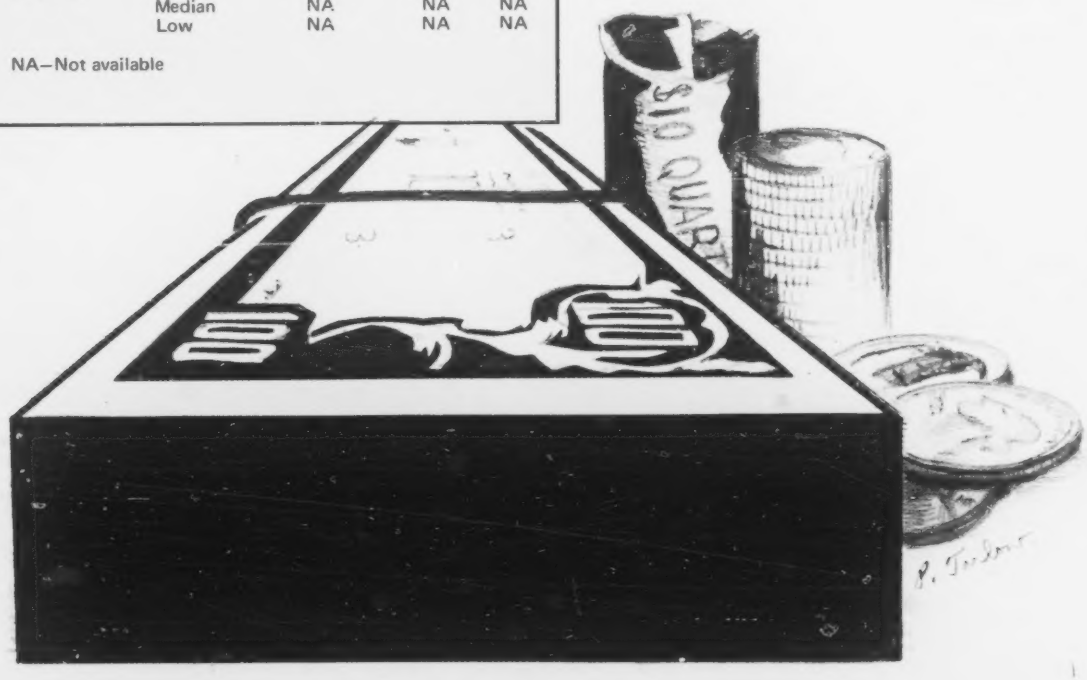
NA—Not available

Hughes 500		1984 Reported Salary	1985 Reported Salary	% Change
Pilot	High	$37,090	$39,011	5.18
	Median	33,888	35,714	5.39
	Low	29,500	30,898	4.74
Mechanic	High	NA	NA	NA
	Median	NA	NA	NA
	Low	NA	NA	NA

NA—Not available

Aerospatiale AStar		1984 Reported Salary	1985 Reported Salary	% Change
Pilot	High	$41,000	$43,294	5.60
	Median	31,902	33,707	5.66
	Low	28,000	29,309	4.68
Mechanic	High	NA	NA	NA
	Median	NA	NA	NA
	Low	NA	NA	NA

NA—Not available



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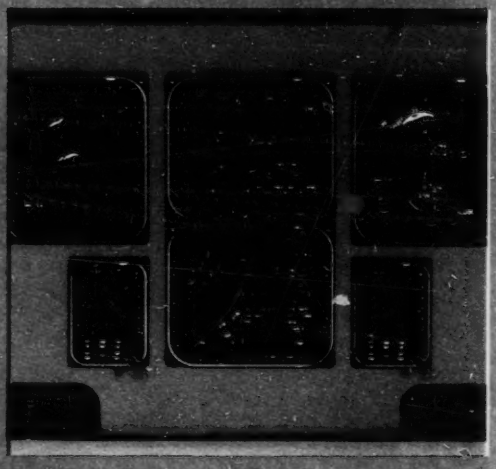
Business and commercial Aviation

Operator Survey: BAe 800

The Fortune 500 Fleet



Collins Concept 4

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Corporate turboprop and jet accident statistics indicate that pilots should pay more attention to the approach phase of flight.

CLEARANCE DELIVERY

B/CA participates in the aviation community in many ways: as a communications vehicle and forum for ideas, as a user of business aircraft, and as a party to the issues and challenges that confront all of us who are involved with general aviation. B/CA exists as a magazine to satisfy the informational needs of the serious aviator, and its staff is dedicated to help the aviation community grow in a healthy and productive manner.

It is in this latter area—which ranges from B/CA's involvement in the FAA's safety activities through the General Aviation Safety Panel (GASP), to the support of Editor Olcott's work on NASA's Aeronautics Advisory Committee and the B/CA staff's involvement with NBAA educational activities—that the depth of the magazine and the capabilities of its entire staff are most noticeable.

One staff member who plays a vital yet low-profile role in B/CA's community activities is Kathleen Hull, assistant to the editor. Many participants in the General Aviation Safety Panel activities chaired by Jack Olcott know of Kathy as the person who checks schedules and arranges nonconflicting dates for GASP meetings, and then copies the Panel's notes for everyone. Without her skillful organization, the

Business Aviation and the *Fortune* 500_____**74**
Fortune 500 companies don't need the usual push to produce; they are naturally ambitious. But of the 500, those that operate aircraft certainly have an edge.

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Safety Panel would have its share of institutional headaches.

In addition to preventing the editors from making commitments to be in two places at the same time, Kathy handles editorial correspondence and maintains the flow of accounting information that is required to process the business activities of the editorial department.

Kathy is one of the reasons why B/CA is able to contribute to the general aviation community.

THE COVER
Staff Editor Alan Staats photographed BAe's 800. The *Fortune* art was done by B/CA. Collins supplied the photo of Concept 4.

Business and commercial Aviation

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Business Aviation and the *Fortune* 500

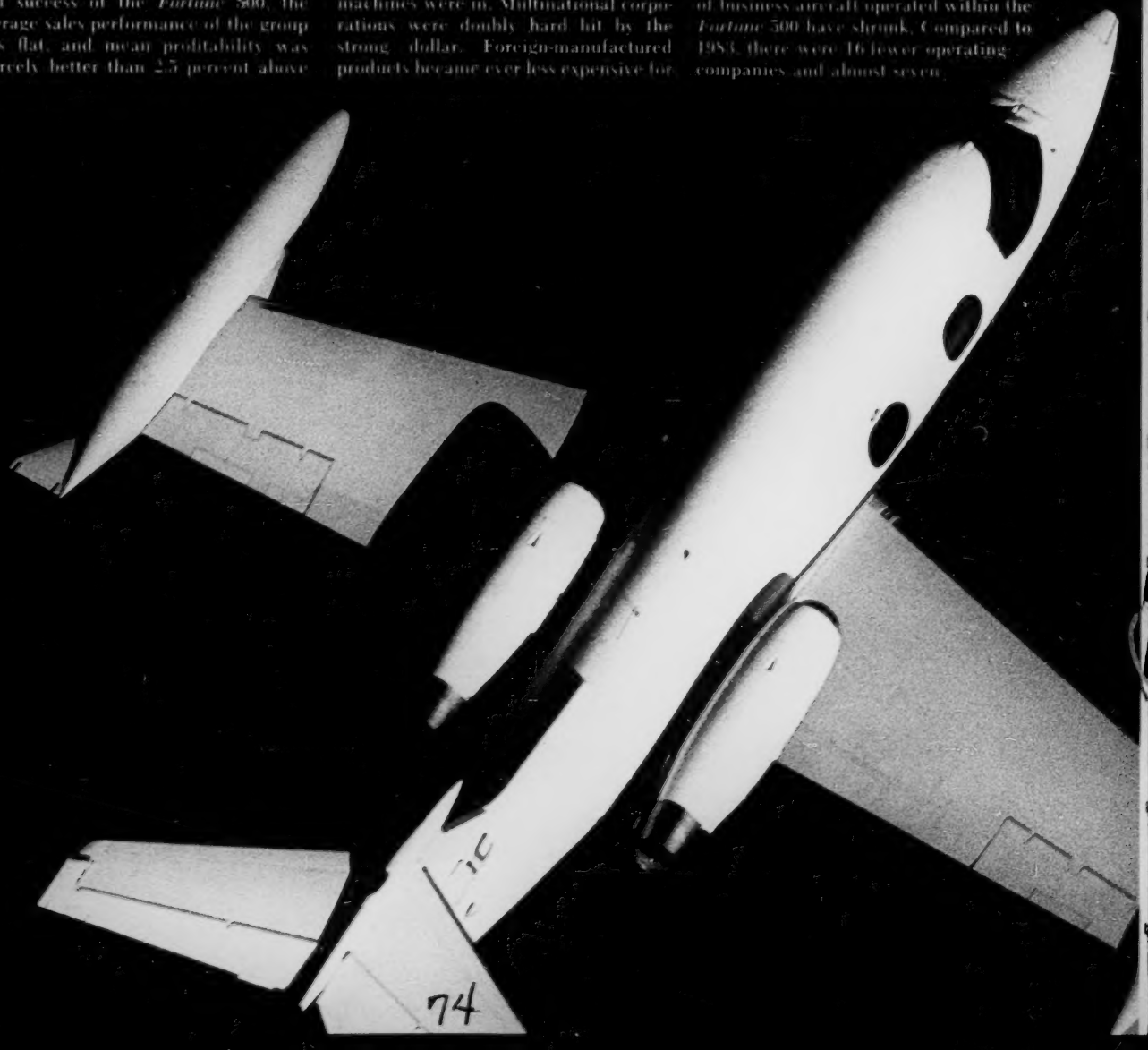
While the financial picture for *Fortune* 500 corporations was not spectacular in 1984, aircraft operators managed to outperform nonoperators in all areas.

by Fred George

Surprisingly, there is nothing more certain than change within corporations arriving at, departing from and swapping positions within *Fortune* magazine's annual sales ranking of the 500 largest U.S. industrial corporations. Contrary to the popular misconception about the unwavering economic growth and success of the *Fortune* 500, the average sales performance of the group was flat, and mean profitability was scarcely better than 2.5 percent above 1981. Notably, both were down when adjusted for inflation.

The unprecedented strength of the U.S. dollar exacerbated import pressures in spite of Industrial America's best efforts towards tough-and-lean cost cutting and productivity improvements. Perks were out; numerically controlled machines were in. Multinational corporations were doubly hard hit by the strong dollar. Foreign-manufactured products became ever less expensive for the American consumer, and profits from foreign subsidiaries, when weak foreign currencies were translated into strong dollar earnings, were lower.

It should come as no shock to our readers that for the second consecutive year, both the number of aircraft-operating companies and the total number of business aircraft operated within the *Fortune* 500 have shrunk. Compared to 1983, there were 16 fewer operating companies and almost seven



percent fewer aircraft in 1984.

But statistical averages are only a small measure of the operating dynamics of the *Fortune* 500. Tough times appear to bring out the best in the performance of individual companies. While 1983 was a year of consolidation, mergers, asset sales and write-downs, those moves helped prepare some companies for a better 1984. It is in this light, that the specific economic performance of aircraft-operating companies may be more accurately compared to that of the nonoperators among the *Fortune* 500.

A glance at the accompanying charts reveals that the financial performance of the aircraft operators exceeds that of nonoperators in all areas. But of greater significance, the specific performance increases of aircraft operators in terms of net income as a percent of sales, net income as a percent of stockholders' equity, and income per employe indicate higher productivity—and in most cases, higher productivity increases—than that of the nonoperators.

While the use of business aircraft by no means assures a company of success, these performance increases suggest a strong and continuing correlation between industrial companies that operate business aircraft and comparatively greater productivity in certain key areas.

Quite apparently, the sales performance of most companies is benefiting from continued economic recovery, but profitability is another matter altogether. If one credits first-rate management with the tough-and-lean productivity decisions enacted during the past two years and which are now causing relatively greater profitability of certain companies, and if the use of business aircraft represents one of the ways employe productivity is increased, it is not unreasonable to assume that those companies that operate business aircraft should perform better than those that do not.

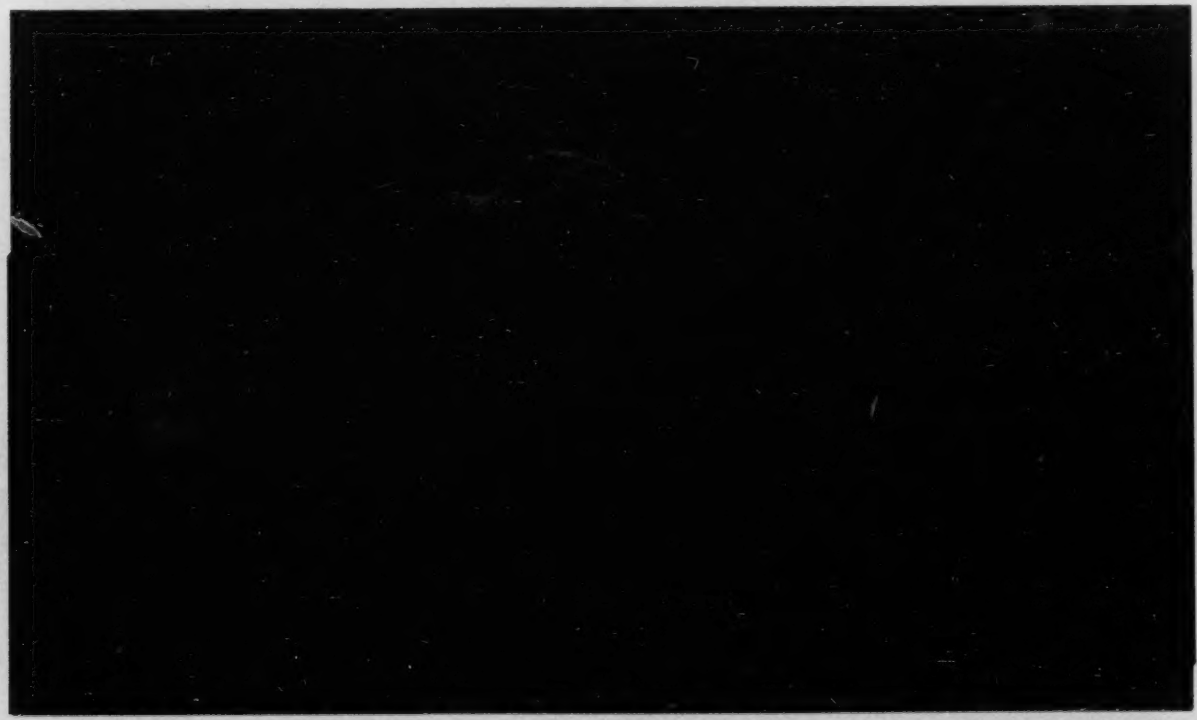
	Nonoperators	Operators
Sales per Employe	$99,264	$130,397
Change over 1983	+6.2%	+5.3%
Net Income as a Percent of Sales	4.0%	5.0%
Change over 1983	+5.0%	+18.0%
Net Income per Employe	$3,951	$6,536
Change over 1983	+11.2%	+22.3%
Net Income as a Percent of Stockholders' Equity	12.0%	13.7%
Change over 1983	+9.2%	+20.4%

Among the star performers were auto makers, appliance manufacturers, food processing companies, publishers, and tire makers. Not only did these industries prosper in 1984, the aircraft operators among them did even better than their nonoperating counterparts.

For example, aircraft operators among the auto makers achieved more than eight times the net income as a percent of sales, seven times more net income per employe and four times more net income as a percent of stockholders' equity compared to nonoperators. General Motors increased its fleet of business aircraft by 33 percent to 16 in the last year; Ford operated eight aircraft in 1984; and Chrysler operated three aircraft, two more than last year.

The electrical appliance makers showed similar productivity gains since our last report in December 1984. In the four performance categories listed above, the aircraft operators scored substantially higher than the nonoperators in 1984. And in all four areas, the performance improvement of the aircraft operators from 1983 to 1984 was equal to or greater than that of the nonoperators. *Fortune* magazine identifies Magic Chef, which is an operator of two business aircraft, as being one of the prime leaders in the appliance group.

In the foods group, Tyson Foods, Consolidated Foods, H.J. Heinz, Kellogg, Beatrice and other aircraft operators



Companies	Employes	Net Sales	Assets	Net Income	Stockholders' Equity	Sales Per Employe	Net Income as a % of Sales	Net Income Per Employe	Net Income as a % of Stockholders' Equity

achieved overall higher net income as a percent of sales and higher net income per employe than nonoperators. The productivity increases compared with 1983 are even more impressive: 15.8 and 23.4 percent for operators, versus 13.0 and 6.0 percent for nonoperators in the former two categories, respectively.

In fact, all of the food-producing and food-processing companies within the *Fortune* 500 operate business aircraft, and Beatrice—which has experienced explosive growth in the last year, much of it through acquisitions—now operates more than twice as many aircraft as it did just 12 months ago.

Publishers and printers also did well in 1984. While aircraft operators achieved higher sales per employe than the nonoperators, the reverse was true in terms of performance change from 1983 to 1984. But, aircraft operators beat nonoperators in the other key areas of net income as a percent of sales, net income per employe and net income as a percent of stockholders' equity. The operators also registered higher increases from 1983 to 1984 in these three areas.

The U.S. tire makers bounced back in 1984 to much improved profitability, largely because these companies lowered prices to compete better with imports, cut much of the fat out of their production facilities and received a windfall of lower oil prices, which alone accounted for more than three quarters of the cost of manufacturing. In the rubber products category, four of the top five performers—Goodyear, Goodrich, Firestone and GenCorp—operate business aircraft.

The Fortune 500 Fleet

Compared to last year, there are about 4.4 percent fewer *Fortune* 500 companies operating business aircraft and 121 fewer aircraft in the *Fortune* 500 total fleet. The average number of aircraft owned per company has declined slightly and remains below five. However, the average aircraft value has increased by almost $200,000.

About one quarter (84) of the operators fly but one aircraft. The largest fleet operated by one corporation (Chevron) is 58 aircraft. The average fleet size of the five largest corporate operators is 36, down from 37.6 and 39.8 as reported in our December 1984 and 1983 issues, respectively. The five largest operators are Chevron (58), Mobil (33), Rockwell-International (33), Tenneco (29) and Dupont (27).

The *Fortune* 500's fleet ranges from Bonanzas to Boeings. In contrast to last year's report, more *Fortune* 500 companies operate Cessna aircraft than any other manufacturer, with Beechcraft coming in a close second. There are also more Cessna aircraft operated by *Fortune* 500 companies than any other brand. The top

Figure 2 **Sales Per Employe**

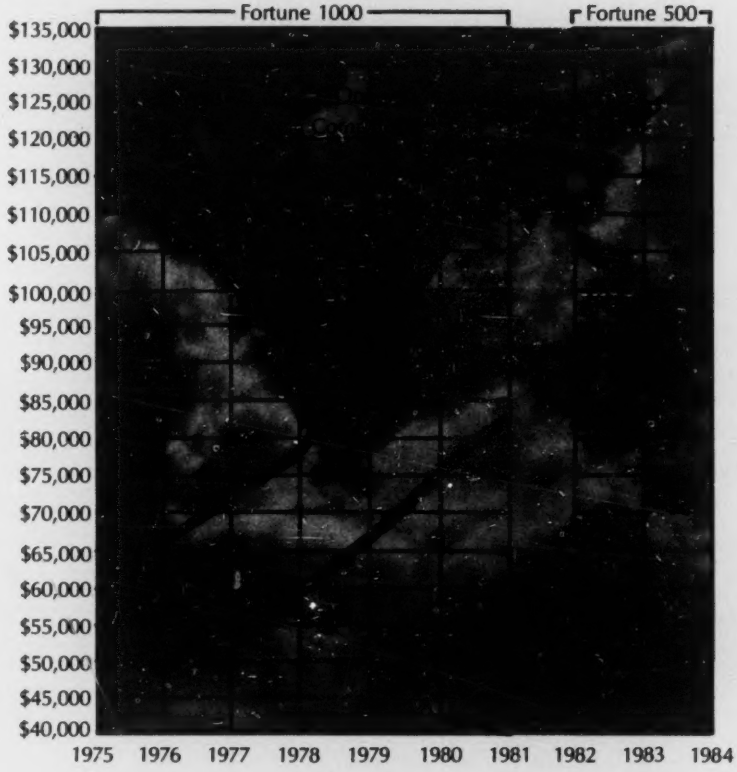
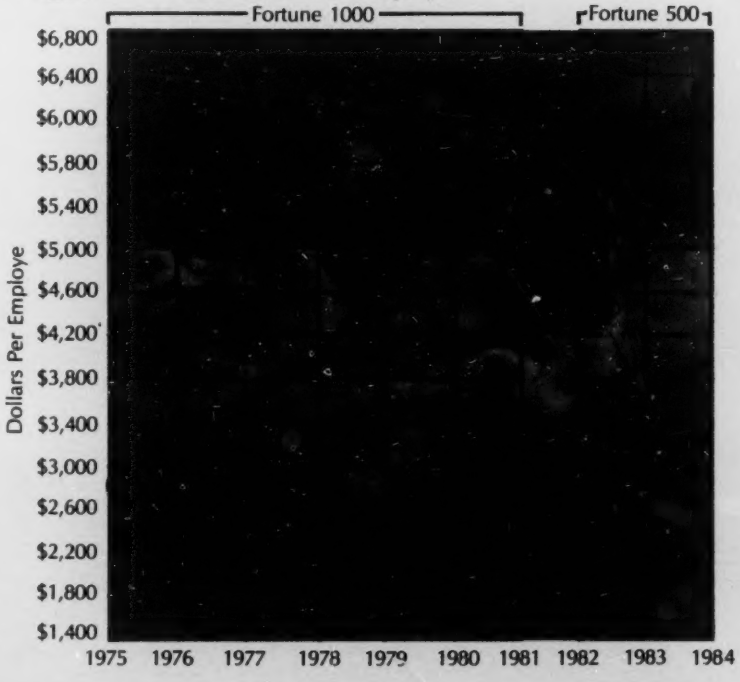


Figure 3 **Net Income Per Employe**



eight of the 47 aircraft manufacturers represented in the fleet lay claim to have produced three quarters (1,274 units) of all the aircraft: Cessna (270), Beechcraft (231), Gulfstream (216), Avions Marcel-Dassault (158), Gates Learjet (121), Bell Helicopter Textron (104), Rockwell (93) and British Aerospace (81).

The five most popular business jets with the *Fortune* 500 (in order) are Falcons, Gulfstreams, Citations, Learjets and Sabreliners, with the average year of manufacture being 1977.

The Beechcraft King Air continues to be by far the most popular turboprop of the *Fortune* 500, as Beech has sold more King Airs within the group and to more companies than all other turboprop manufacturers combined. The average age of a *Fortune* 500 turboprop is 11 years.

The recip category is dominated by the big three U.S. general aviation makers: Cessna, Beech and Piper.

Within the 26 industrial group classifications of the *Fortune* 500, the largest increases in the number of aircraft operated by category were reported in mining/crude oil production, chemicals, measuring/scientific/photo equipment, and motor vehicle groups.

Although the largest number of aircraft (289) continues to be operated by the petroleum refiners, this group also experienced the largest decline (36) in aircraft operated in 1984 compared to 1983.

Other industries that suffered sizable losses to their fleets were the apparel, metal manufacturing, metal products, shipbuilding / railroad / transportation equipment, and, unexpectedly, the aerospace group. Much of the decline in the number of aircraft operated by these six industrial groups may be attributed to the economic woes created by a very strong dollar coupled to the ever worsening impact of foreign competition in domestic and overseas markets.

But, ours is an economy in a tumultuous transition from a manufacturing to a service orientation. Consequently, the volume of business aircraft operation within the *Fortune* 500 *industrials* should be placed in proper perspective. Business aircraft activity within an entirely different group of corporations has been completely excluded. Companies such as American Express, Manufacturers Hanover and K Mart are conspicuously missing. The *Fortune* 500 *service* companies—including commercial banking, diversified financial services, life insurance companies, retailers and public utilities—will be the focus of a later report. □

Fortune 500 Fleet Summary

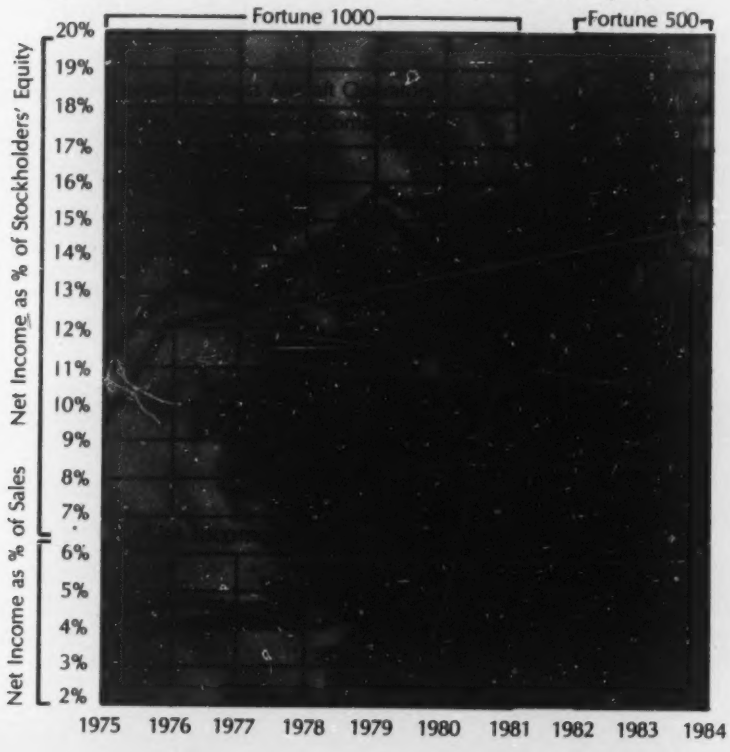
Airplanes	Piston	Turboprop/ Turboshaft	Turbojet	Total
Multiengine	0	0	103	103
Single engine	123	5	3	131
Twin engine	120	347	791	1,258
Subtotal	243	352	897	1,492
Helicopters				
Single engine	7	98	0	105
Twin engine	0	80	0	80
Subtotal	7	178	0	185
Total	**250**	**530**	**897**	**1,677**

Comparative Fleet Size

Number of Aircraft	Number of Companies
1	84
2	75
3	45
4	30
5	17
6	17
7	16
8	12
9	6
10	10
11	8
12	1
13	1
14	7
15	2
16	3
17	1
18	1
19	1
20	1
21	1
24	1
25	1
26	1
27	1
29	1
33	2
58	1
1,677	**347**

Groups	Companies		Aircraft Operated
	Nonoperators	Operators	
Mining, Crude Oil Production	1	11	55
Food	20	34	104
Tobacco	1	3	20
Textiles, Vinyl Flooring	3	8	15
Apparel	4	8	27
Furniture	1	1	2
Paper, Fiber & Wood Products	9	24	104
Publishing, Printing	6	12	40
Chemicals	18	27	142
Petroleum Refining	4	25	289
Rubber, Plastic Products	4	8	27
Glass, Concrete, Abrasives, Gypsum	3	14	41
Metal Manufacturing	9	19	51
Metal Products	7	15	33
Electronic Appliances	18	32	178
Shipbldg., RR & Transport Equip.	2	4	13
Measuring, Scientific, Photo Equip.	7	9	44
Motor Vehicles	3	12	62
Aerospace	2	15	178
Pharmaceuticals	5	14	43
Soaps, Cosmetics	3	6	18
Office Equipment (Computers)	13	8	44
Industrial & Farm Equipment	4	28	108
Musical Instr., Toys, Sport Goods	3	3	8
Beverages	3	7	31
Average or Total	153	347	1,677

Figure 4 Net Income as Percent of Stockholders' Equity



Sales Per Employe		Net Income as a Percent of Sales		Net Income Per Employe		Net Income as a Percent of Stockholders' Equity	
Nonoperators	Operators	Nonoperators	Operators	Nonoperators	Operators	Nonoperators	Operators
160,093	278,325	5.5	5.8	8,801	16,097	20.4	12.4
125,000	114,512	2.3	3.8	2,909	4,348	12.7	16.7
58,906	132,849	9.3	9.7	5,451	12,895	19.1	24.7
63,734	65,171	1.6	3.1	1,047	2,014	5.4	9.1
64,961	56,043	2.3	5.0	1,467	2,822	7.7	14.6
58,407	64,951	2.5	4.8	1,132	3,100	8.0	19.3
109,087	130,507	6.0	3.4	6,548	4,432	14.9	8.3
88,447	97,454	8.6	8.7	7,607	8,464	18.5	18.8
164,733	148,168	4.4	4.2	7,178	5,776	13.4	10.5
253,669	430,122	0.8	4.1	2,032	17,714	5.5	11.5
100,397	84,266	3.2	3.0	3,247	2,557	11.2	9.8
90,575	97,182	2.6	4.9	2,344	4,799	5.5	12.1
137,704	128,104	-0.9	-0.7	-1,272	-916	-1.9	-2.2
76,299	78,350	5.4	4.4	4,131	4,347	13.5	12.3
65,710	69,555	4.7	5.4	3,102	4,854	11.7	13.5
102,650	69,909	4.2	2.8	4,311	1,983	24.6	11.4
73,579	80,329	3.8	7.0	2,795	5,632	7.6	13.4
130,09	116,362	0.7	6.2	945	7,158	5.7	24.6
119,577	91,514	5.2	4.2	6,225	3,880	16.6	15.8
100,826	91,494	6.1	10.9	6,100	9,946	13.1	18.7
193,294	128,851	3.8	5.5	7,304	7,145	13.7	15.3
90,321	90,950	4.7	11.0	4,237	10,014	12.3	19.7
81,943	86,308	5.3	2.5	4,363	2,165	21.5	6.1
77,900	68,785	1.8	3.4	1,441	2,340	10.3	9.9
105,646	103,665	9.1	6.0	9,593	6,192	21.1	15.1
99,264	138,397	4.0	5.0	3,951	6,536	12.0	13.7